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Curimata biornata, a new curimatid fish (Characiformes, Curimatidae) from Argentine and Southeastern Brazil

by

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With 3 figures

ABSTRACT

Curimata biornata is described from Río de la Plata and Río Paraná basins in Argentine and from Río Uruguay basin in Argentine and Southeastern Brazil. This new species can be readily distinguished from all others species of the *Curimata* assemblage by the presence of spots along lateral line scales and spots randomly arranged on dorsum and sides of body above lateral line, in combination with a low number of scales on lateral line (32-36).

INTRODUCTION

The curimatids of Paraná, de La Plata and Uruguay drainage systems are still incompletely know. From these systems a new species is described herein. This species is assigned up to the moment to the genus *Curimata* which assembled most part of species of the family in the more conservative and divulged classificatory schemes.

METHODS

All measurements are straight-line distances. Measurements were made with calipers; the data were recorded to tenths of millimeter. Morphometric values are expressed as a proportion of standard length (SL) except where otherwise designated. Head lenght

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includes the fleshy opercular flap. Scales counted above and below the lateral line not including the middorsal and midventral scale. Last dorsal-fin ray and last anal-fin ray which are divided to base into two branched rays, are counted as two.

Abbreviations used herein for institutions are:

MACN: Museo Argentino de Ciencias Naturales B. Rivadavia, Buenos Aires.

MCP: Museo de Ciências, Pontificia Universidade Católica do Rio Grande do Sul.

MLP: Museo de Ciencias Naturales, Universidad Nacional de La Plata.

MHNG: Muséum d'Histoire naturelle de Genève.

***Curimata biornata*, new species**

Figs 1-2, Table 1

Holotype. MLP 10-I-50-13, 67.1 mm standard length (SL), Arroyo Juan Blanco, tributary of Río de la Plata, Municipality of Magdalena, Buenos Aires Province, Argentine (approx. 35°11'S, 57°24'W), no collectors data.

Paratypes. 47 specimens. MLP 10-I-50-13 and MHNG 2367.88, 17 specimens (including 1 specimen cleared and stained for cartilage and bone), 72.7-54.1 mm SL, taken with the holotype. MLP 10-VII-61-6, 2 specimens, 68.4-64.5 mm SL, Arroyo Ignacio Correas, tributary of Río de la Plata, Municipality of Magdalena, Buenos Aires Province, Argentine (approx. 35°45'S, 57°47'W), by R. Ringuelet and R. Arámburu. MLP 6-VI-60-1, 1 specimen, 51 mm SL, Arroyo Zapata, tributary of Río de la Plata, Municipality of Magdalena, Buenos Aires Province, Argentine (approx. 34°57'S, 57°45'W), by M. Galván and M. Martín. MLP 12-X-61-22, 1 specimen, 60.6 mm SL, in a lagoon ("madrejón") communicated with Río Colastiné, tributary of Río Paraná, Santa Fe Province, Argentine (approx. 32°03'S, 61°W), by R. Ringuelet and R. Arámburu. MLP 12-X-61-23, 3 specimens, 62-57.5 mm SL, with same locality and collectors of preceding. MLP 6-VII-65-32, 3 specimens, 58.8-88.9 mm SL, Río Paraná Delta (no other locality data), Argentine, by A. Bachmann. MLP 2-VIII-73-12, 1 specimen, 90.6 mm SL, municipal spa in Berisso, Río de la Plata, Buenos Aires Province, Argentine (approx. 34°50'S, 57°50'W), by R. Arámburu. MLP 19-XII-86-2, 3 specimens, 64.2-58.8 mm SL, ditch near Rio Conceição, tributary of Rio Ijuí, Municipality of Ijuí, State of Rio Grande do Sul, Brazil (approx. 28°46'S, 53°52'W), by C. Porto da Silva and M. Fátima. MLP 19-XII-86-3, 2 specimens, 75.1-70 mm SL, headwaters of Rio Negro, 45 km from Bagé, Municipality of Bagé, State of Rio Grande do Sul, Brazil (approx. 33°25'S, 54°08'W), by C. Lucena and L. Malabarba. MLP 19-XII-88-4, 1 specimen, 86 mm SL, Rio Conceição, tributary of Río Ijuí, in Augusto Pestana, Municipality of Ijuí, State of Rio Grande do Sul, Brazil, by M. Fátima. MACN 361, 3 specimens, 81.7-56 mm SL, Gregorio de Laferrere (Río de la Matanza?), Municipality of La Matanza, Buenos Aires Province, Argentine (approx. 34°45'S, 58°36'W), by E. Agusti. MACN 7336, 3 specimens, 123.7-85.1 mm SL, lagoon in a shell quarry, Los Talas, Municipality of Berisso, Buenos Aires Province, Argentine (approx. 34°52'S, 54°49'W), by H. Castello. MCP 10954, 3 specimens, 78.8-68.4 mm SL, ditch near Rio Conceição, tributary of Rio Ijuí, Municipality of Ijuí, State of Rio Grande do Sul, Brazil (approx. 28°46'S, 53°52'W), by C. Porto da Silva and M. Fátima. MCP 10955, 2 specimens, 64.2-58.8 mm SL, headwaters of Rio Negro, 45 km from Bagé, Municipality of Bagé, State of Rio Grande do Sul, Brazil (approx. 33°25'S, 54°08'W), by C. Lucena and L. Malabarba. MCP 10956, 1 specimen, 68.7 mm SL, taken with the holotype. MHNG 2367.87 (ex MCP unregistered), 1 specimen, 68.4 mm SL, Rio Conceição, tributary of Rio Ijuí, in Augusto Pestana, Municipality of Ijuí, State of Rio Grande do Sul, Brazil, by M. Fátima.

The following specimens were examined but are not part of the type series. MLP 6-VI-60-1, 1 specimen, 38 mm SL (see data above). MLP 3-V-43-22, 3 specimens in poor conditions, 54.5-52.1 mm SL, Arroyo Yuquerí Grande, tributary of Río Uruguay, Concordia, Municipality of Concordia, Entre Ríos Province, Argentine (approx. 31°25'S,

TABLE 1.

Measurements of Curimata biornata, new species. Standard length is expressed in mm; measurements through head length are proportions of standard length; measurements below head length, except the last, are proportions of head length.

MEASUREMENTS	HOLOTYPE	PARATYPES			
		n	min	max	\bar{X}
Standard length	61,1		51,0	123,7	
Body depth at dorsal-fin origin	0,35	47	0,30	0,37	0,33
Body depth at anal-fin origin	0,23	47	0,19	0,24	0,21
Snout to dorsal-fin origin	0,49	47	0,46	0,51	0,48
Snout to pelvic-fin origin	0,54	47	0,50	0,56	0,53
Snout to anal-fin origin	0,80	47	0,74	0,82	0,78
Snout to adipose-fin origin	0,88	47	0,80	0,88	0,84
Origin of rayed dorsal-fin to hypural joint	0,50	47	0,48	0,53	0,50
Dorsal-fin base posterior tip to adipose-fin origin	0,24	47	0,20	0,25	0,22
Least depth caudal peduncle	0,13	47	0,11	0,13	0,12
Anal-fin origin to hypural joint	0,22	45	0,19	0,24	0,21
Dorsal-fin base	0,17	47	0,14	0,18	0,16
Anal-fin base	0,10	47	0,08	0,10	0,09
Pectoral-fin length	0,17	45	0,16	0,20	0,17
Pelvic-fin length	0,19	46	0,18	0,22	0,19
Longest anal-fin ray length	0,16	46	0,12	0,18	0,15
Head length	0,28	47	0,25	0,28	0,27
Orbital diameter	0,30	47	0,26	0,35	0,29
Snout length	0,26	46	0,24	0,31	0,27
Postorbital length of head	0,42	47	0,41	0,46	0,43
Interorbital width	0,39	47	0,39	0,45	0,41
Gape width	0,24	44	0,21	0,28	0,24
Least depth of caudal peduncle in anal-fin origin to hypural joint	0,58	44	0,49	0,62	0,55

58°03'W), by E. McDonagh. MACN 361, 1 specimen, 44.5 mm SL (see data above). MACN 6997, 2 specimens, 74.3-73.9 mm SL, Río de la Matanza, tributary of Río de la Plata, Buenos Aires Province, Argentina, by R. Taberner.

DIAGNOSIS

Curimata biornata can be distinguished from all other nominal species by the combination of a low number of lateral series scales (32-36) and a characteristic pigmentation pattern consisting of series of randomly arranged spots on dorsum and sides of body above lateral line and little spots around each pore and posterior border of scale, or little beyond it, along lateral line, giving a succession of equal sign pattern.

DESCRIPTION

See Table 1 for morphometric values. Meristic data of holotype in parentheses through description.

Body moderately elongate. Greatest body depth at dorsal fin origin. Dorsal profile of head straight. Predorsal body profile slightly convex from rear of head to dorsal fin origin; dorsal-fin base straight, moderately slanted postero-ventrally; dorsal body profile straight from rear of dorsal fin base to adipose-fin origin. Caudal peduncle slightly con-

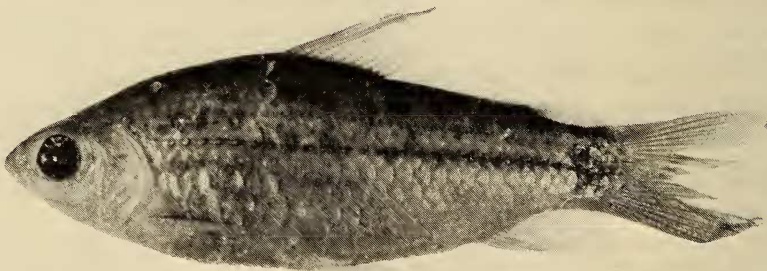


FIGURE 1.

Curimata biornata, new species, MLP 10-I-50-13, 67.1 mm SL, holotype. Arroyo Juan Blanco, Magdalena, Buenos Aires, Argentina.

cave in both dorsal and ventral profiles. Dorsal surface of body with an indistinct median keel anterior to rayed dorsal fin, a weakly median keel posterior to fin. Predorsal region scales with slightly crenated margins, more pronounced in larger individuals. Ventral head profile somewhat convex. Ventral profile of body gently curved. Prepelvic region flattened with distinct lateral longitudinal keels. From the vertical which passes through pectoral-fin insertion to pelvic-fin origin, one or two median series of scales; in both cases there are continuous or discontinuous series, of similar size or not. Midventral scales

flanked on each side by a series of bended scales that conform the lateral keels. Preventral region scales smoothly crenated, more so in larger specimens; preventral scales usually not more enlarged than body sides scales. An indistinct median keel posterior to pelvic-fin insertion to anus.

Head relatively small; snout obtuse, nostrils separated by a fold of skin; anterior nostril round, posterior nostril crescent shaped. Jaws equal or lower protruding slightly beyond upper jaw. Roof of mouth with few longitudinal ridges more or less pronounced. Adipose eyelid ovoid, extended from posterior margin of rear posterior nostril to near anterior border of opercle; more developed in larger specimens. This eyelid with a round opening not overlaying pupil.

Dorsal-fin origin almost equidistant from snout tip and caudal-fin base (hypural joint). Dorsal-fin pointed but not filamentous. Third unbranched and first to third branched rays longest, subequal. When fin depressed the tip reaches one-half distance to adipose-fin origin. Dorsal-fin rays iii, 9-12, mode iii, 10 (iii, 10). Pectoral fin pointed, posterior tip not reaches the vertical through pelvic-fin origin. Pectoral-fin rays i, 12-15, mode i, 13 (i, 12). Pelvic fin pointed, reaching one or two scales in front of anus. Pelvic fin rays i, 7-9 or i, 7, i, mode i, 8 (i, 8). Anal fin slightly emarginate; first branched ray longest; when fin depressed reaching approximately the vertical through adipose-fin tip. Anal-fin rays iii, 7-9, mode iii, 8 (iii, 8). Caudal fin somewhat deeply forked, upper and lower lobes subequal or upper little longer. Caudal fin naked with only two or three scales covering central basal portion of each lobe. Caudal peduncle slender. Adipose fin well developed. Lateral line complete (only in two paratypes the last little scale on caudal-fin

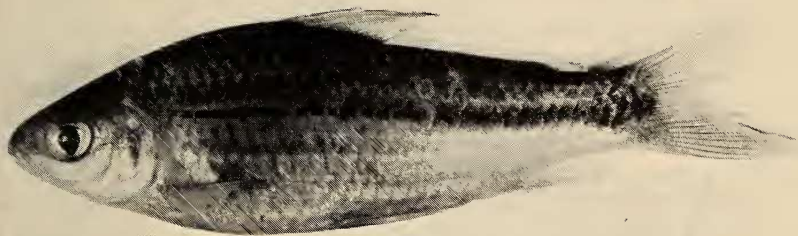


FIGURE 2.

Curimata biornata, new species, MLP 19-XII-86-2, 70 mm SL, paratype. Ditch near Rio Conceição, Ijuí, Rio Grande do Sul.

base not perforated); 32-36 pored lateral line scales, mode 35 (34); 6-5 scales above lateral line to dorsal-fin origin, mode 5 (6); 5-4 scales below lateral line to anal-fin origin, mode 5 (5); 11-13 scales in predorsal median series, but series incomplete with overlapping or paired scales. Scales on sides of body smooth, slightly crenated in larger specimens, more so in ventral portion of body sides.

Coloration

All specimens from Argentine previously preserved in formaline, specimens from Brazil in alcohol preserved. Colour description based on holotype, with comments on specimens from others localities when necessary.

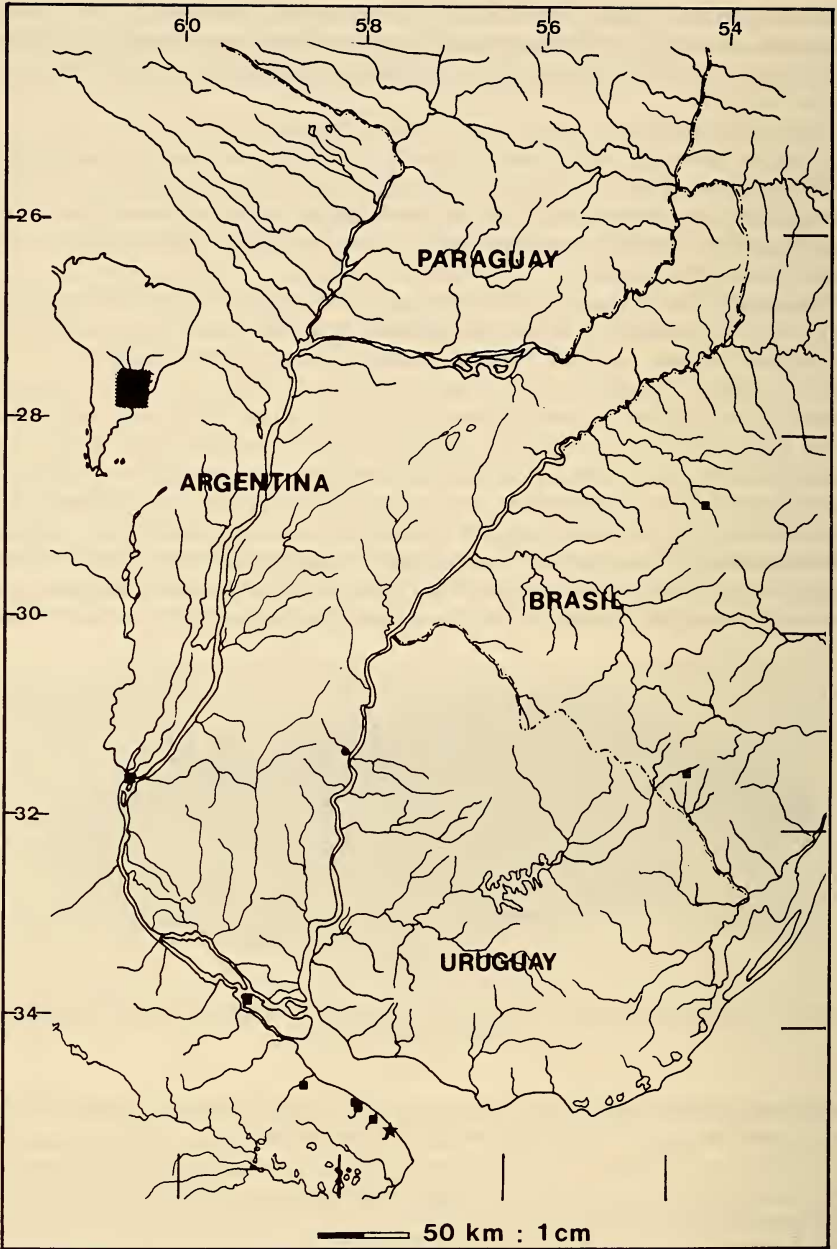


FIGURE 3.

Distribution records for *Curimata biornata*. Star indicates collection locality of holotype; squares indicate collection localities of paratypes; circle indicates collection locality of non-type specimens MLP 3-V-43-22.

Body darker dorsal to lateral line, pale brown; yellowish ventrally. Dorsally and anteriorly head with numerous small brown chromatophores uniformly distributed but more densely arranged along nostril edges and folds of skin that separate them. Fleshy lip of premaxilla and maxilla with numerous chromatophores, except in ventral extreme of maxilla. Dark chromatophores form a narrow margin on ventral border of orbita. Scattered chromatophores on opercle; other opercular bones, suborbital bones and lower jaw without pigment. Dorsum and sides of body above lateral line with numerous dark brown chromatophores, those more concentrated within some scale pocket areas form series of randomly arranged spots. Scales pocket borders lined with dark brown chromatophores, but not giving an evident reticulate pattern. In scale pockets along lateral line, dark chromatophores grouped around the pore and the posterior border of scale or little beyond it, giving a succession of equal sign pattern. In the holotype the first three faded. Below lateral line the first scale row with dark brown chromatophores scattered within scale pocket central area; in the second row this pattern only present as far as anal-fin origin. An elliptic, sometimes triangular, caudal spot extending from a vertical through rear of adipose-fin origin to near hypural joint; the pigmentation of caudal spots in major part lies underneath the scales.

Dorsal fin with anterior border more pigmented; small dark chromatophores outlining last unbranched ray and all branched rays; interradi al membranes with scattered chromatophores more concentrated along fin base. Adipose fin with dark chromatophores regularly scattered. Dorsalmost five pectoral-fin rays outlined by chromatophores, otherwise pectoral fin nearly hialine. Pelvic fin with pigment outlining distal half of unbranched lateral and first four branched rays; otherwise pelvic fin clear. Anal fin with series of chromatophores outlining distal portion of rays on second unbranched through all branched anal rays. Anterior border of the fin more pigmented. Small dark chromatophores line caudal-fin ray borders, more densely distributed on distal portion of branched rays. Lower caudal-fin lobe more densely pigmented than upper.

In some specimens more freshly preserved, body grayish brown dorsally to lateral line; dorsal spots and groups of chromatophores along lateral line, almost black; pigmentation below lateral line more intense. In specimens that retain guanine, silvery golden coloration somewhat masking dorsal spots, evident under some light conditions.

ETYMOLOGY

The specific name *biornata* from the Latin *bis*, twice and *ornata*, adorned, in reference to the double pigmentation pattern: spots along lateral line scales and on dorsum and sides of body.

DISTRIBUTION

The material of *Curimata biornata* was collected from streams and rivers tributaries of Río de La Plata, Río Uruguay and Río Paraná in Argentine and tributaries of Río Uruguay in Brazil.

REMARKS

Other species of *Curimata* assemblage that occur in part of Río de la Plata drainage basin, Paraná and Uruguay rivers included, and that were collected together in several examined samples, shared with this new species some coloration characters. *C. voga* also possesses series of spots on dorsum and sides of body above lateral line but can be easily distinguished from *C. biornata*, among other characteristics, by the lack of a dark pigmentation in scales along lateral line series, a greater number of pored lateral line scales (38-41 vs. 32-36), a greater head length (0.30-0.34 vs. 0.25-0.28) and postorbital portion of head (0.48-0.51 vs. 0.41-0.46). *C. nitens* also has little spots along lateral line scales although with some different relative position of pigment, but lacks spots on lateral and dorsal surface of body, has more pored lateral line scales (38-40 vs. 32-36), mouth infere and with numerous lobes in the roof of the mouth. The shared and distinctive characters among the species mentioned above are not exhaustive and have the finality to differentiate these nominal forms in the presumption that *C. biornata* was mistaken with one or both of them.

ACKNOWLEDGMENTS

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BIBLIOGRAPHY

- BOULENGER, G. A. 1902. Descriptions of new fishes and reptiles discovered by Dr. F. Silvestri in South America. *Ann. Mag. nat. Hist.* 7 (9): 284-288.
- BRITSKI, H. A. 1980. Sobre uma nova espécie de *Curimata* da bacia do Parana no Estado de São Paulo (Pisces, Curimatidae). *Pap. avul. Zool. S. Paulo* 33 (23): 327-333.
- EIGENMANN, C. H. 1912. The freshwater fishes of British Guiana, including a study of the ecological grouping of species and the relation of the fauna of the plateau to that of the lowlands. *Mem. Carnegie Mus.* 5: xix + 579, 103 pls.
- EIGENMANN, C. H. & W. R. ALLEN. 1942. Fishes of the Western South America. *Univ. Kentucky, Lexington*, 492 pp. 22 pls., 1 map.
- EIGENMANN, C. H. & R. S. EIGENMANN. 1889. A revision of the edentulous genera of Curimatidae. *Ann. N. Y. Acad. Sci.* 4: 409-440.
- EIGENMANN, C. H. & C. H. KENNEDY. 1903. On a collection of fishes from Paraguay, with a synopsis of the American genera of cichlids. *Proc. Acad. nat. Sci. Philad.* 55 (2): 497-537.
- FERNANDEZ YEPEZ, A. 1948. Los curimatidos (peces fluviales de Sur América). Catálogo descriptivo con nuevas adiciones genéricas y específicas. *Bol. taxonómico Lab. Pesq. Caiguire, Venezuela* 1: 1-86.
- FOWLER, H. W. 1950. Os peixes de água doce do Brasil. *Arqs. Zool. Est. S. Paulo* 4: 205-404.
- GÉRY, J. 1977. Characoids of the World. *TFH Publ. Neptune City, New Jersey*, 672 pp.

- GÜNTHER, A. 1864. Catalogue of the Physostomi, containing the families Siluridae, Characinidae, Haplochitonidae, Sternoptychidae, Scopelidae, Stomiidae, in the collections of the British Museum, London. 5: xxii + 455. *Trustees Brit. Mus. London*.
- HENSEL, R. F. 1870. Beiträge zur Kenntnis der Wirbeltiere Südbrasiens. Fische. *Arch. Naturgesch.* 1: 50-91.
- HOLMBERG, E. L. 1891. Sobre algunos peces nuevos o poco conocidos de la República Argentina. *Revta argent. Hist. nat.* 1: 180-193.
- MYERS, G. S. 1927. Descriptions of new South American freshwater fishes collected by Dr. C. Ternetz. *Bull. Mus. comp. Zool. Harvard.* 68 (3): 107-135.
- QUOY, J. R. C. & P. GAIMARD. 1824. Voyage autour du Monde, exécuté sur les corvettes de S. M. "L'Uranie" et "La Physicienne" pendant les années 1817-1820. Zoologie, Chap. IV, Poissons: 192-401, *Paris*.
- STEINDACHNER, F. 1874. Die Süßwasserfische des südöstlichen Brasilien (I). *Sber. k. Akad. Wien, math.-naturwiss. Cl.* 69: 1-40, 6 pls.
- VARI, R. P. 1983. Two new fish species of the genus *Curimata* (Pisces, Curimatidae) from Venezuela. *Acta biol. venez.* 11 (4): 27-43.
- VARI, R. P., J. GÉRY 1985. A new curimatid fish (Characiformes: Curimatidae) from the Amazon basin. *Proc. biol. Soc. Wash.* 94 (4): 1030-1034.